Chapter Six
VEGETATION MANAGEMENT RECOMMENDATIONS

Seven Management Areas have been delineated for the purposes of this plan, based on distinctive vegetation characteristics and management requirements. Management Areas are not in all cases physically continuous; in addition, some span multiple Vegetation Zone boundaries. Whereas Vegetation Zones document existing park vegetation, several share similar management requirements and thus have been grouped together. The seven Management Areas are mapped in Chapter 10, Appendix F, Map F-6 and include: Shoreline, Bluff, Forest, Passive Use Greensward, Active Use Greensward, Lawn/Ballfield and Native/Ornamental Landscape.

This chapter provides specific management and maintenance recommendations for each respective area, in a consistent, accessible format. Included for each Management Area are a brief description with guiding management objectives, a customized annual calendar for management and maintenance practices, and a narrative discussion of practices by calendar category, as relevant: Weeding and Invasive Control (Trees, Shrubs, Herbs), Removing Plants, Planting (Trees, Shrubs, Herbs), 3-Year Establishment Care, Lawn Care.

6.1 Shoreline Management Area

Area: 16.2 acres. Boundary corresponds to Vegetation Zone A. The Shoreline is a long, thin strip along Lincoln Park's western edge where it borders Puget Sound. A sandy beachfront stretches the entire length of this area along the salt water. Wind, spray and solar exposure are highly variable, in many parts seasonally quite intense. A service road divides the beach from the remainder of the area, which is flat upland. Colman Pool is located near the westernmost point, surrounded by an ornamental landscape and lawn. Shrubs here feature rhododendron and rose, plus a grove of black locust trees.

The eastern edge consists of many small lawn areas that abut the base of steep bluffs. Some ornamental trees and limited shrubbery distinguish this portion as a developed landscape, in contrast with unmaintained slope and sparse beach vegetation just beyond. Picnic tables, benches, grills and other structures are present in some of the upland lawn areas, and much used by Park visitors. Passive recreation is a major characteristic of this Management Area, including beachwalking, promenade strolling and skating, sunbathing, swimming, picnicking, and enjoying panorama views of water and mountains.

Objectives:
- Monitor potential hazard trees
- Maintain ornamental plantings
- Manage lawn areas for high use
- Create a vegetation buffer along the shoreline
- Monitor for invasive, non-native plant species

Management and Maintenance Annual Calendar
Lincoln Park – Shoreline Management Area

	Month																					
	J		F		M		A		M		J		J		A		S		O		N		D	
Management and Maintenance Practices																								
Removing Plants	X	X	X	X											X	X	X	X	X	X	X	X	X	X
Pruning	X	X	X	X											X	X	X	X	X	X	X	X	X	X
Planting																								
Trees																								
Shrubs																								
Herbs																								
3 Yr. Establishment Care														X	X	X	X	X	X					
Monitor Invasive plants																								

☐ Indicates range of time to perform action as needed
X Indicates specific time to perform action

REMOVING PLANTS
Other than invasive plants, removals should be limited to ornamentals in poor condition and hazard trees. When possible, removals should be done between August and March to avoid disruption of nests and peak seasons of human use. Felling hazard trees and grinding on site for use in beds as coarse woody mulch is preferable to complete removal of the material.

PRUNING
Pruning of trees should be performed only by a certified arborist or plant health care professional. Tree pruning should be limited to removal of limbs that pose a hazard to human safety or infrastructure, or compromise a tree's structural framework. Shrub pruning should be as limited as possible to maintain plant vigor and beauty, and reflect species-appropriate timing and techniques.

PLANTING
Planting should be done only if at least three-year establishment care can be assured, particularly in harsh shoreline conditions. Species selection should consider the potential invasiveness of species, microclimate conditions at each planting site and the historic landscape character of Lincoln Park. Herbs and shrubs adapted to salt spray and sandy soil should be planted along the beachfront to create a vegetation buffer, and to enhance wildlife habitat. Trees should not be planted along the shore itself, and replacements carefully chosen to balance provision of shelter with sun and view preservation. Plants adapted to sunny, windy exposures should be planted along the southwestern edge of this area; those more suited to moderate wind and sunshine should used at the northwestern margin.

MULCHING
The ground immediately surrounding newly installed plants should be covered with woody mulch. Trees and shrubs growing in lawn areas should have a portion of their root zones mulched, taking care not to pile mulch on root crowns or against plant stems. Where practical, a mulch circle one foot in diameter per inch of plant stem diameter should be spread around trees and shrubs. Best professional judgement should be used in deciding how large of a circle is practical to apply and maintain. Grass should be killed or removed before placing chips.

LAWN CARE
Lawn areas along the shoreline should continue to be managed for high levels of use by Park visitors. Lawns should not be allowed to grow directly up to stems of individual trees and shrubs without a protective buffer of coarse woody mulch.

THREE YEAR ESTABLISHMENT CARE
Establishment care will be necessary for any newly installed woody plants added to enhance this area; practices include watering, replenishing mulch, weeding, training pruning, monitoring for vigor and survival, and possibly, replacement planting.

MONITORING INVASIVE PLANTS
Invasive plants do not currently exist in significant populations in the shoreline area. The movement of invasive plants into this area should be closely monitored and arrested where discovered. Adjacent sources of invasive species abound, due to the near-impossibility of maintaining bluff vegetation.

6.2 Bluff Management Area

Area: 18.7 acres (not including slope factor which significantly increases area). Boundary encompasses Vegetation Zones B and G, most of Zone J and NW portion of Zone M. The Bluff runs north to south along the length of Lincoln Park's western edge, bordered to the west by the Shoreline and to the east by the blufftop trail, where the grade becomes relatively level. Vegetation on the bluff slope varies with microclimate and as a result of recent landslides. The northern portion of the bluff has a northwestern exposure and subsequently a moderate microclimate compared with the harsh southerly end.

Canopy: Dominant trees on the northern bluff include Bigleaf maple, Red alder and Douglas fir. The southern portion, which has more solar exposure, is dominated by Pacific madrona and Douglas fir.

Understory: In the northern portion of the bluff, common native shrubs include Ocean spray, Indian plum, Low Oregon grape, Western hazelnut, and Red elderberry. The southern slope has an understory dominated by Western hazel, Salal, Orange honeysuckle (*Lonicera ciliosa*) and Snowberry.

Invasive plants: Species vary in abundance throughout this area. The most abundant invasives are English ivy (0-21%), Himalayan blackberry (0-14%), English holly (0-16%) and Tree lupine - *Lupinus arboreus* (0-6%). English ivy is most abundant in the northern portion of the bluff. Himalayan blackberry and English holly are most common in the central part of the bluff. Portions of the southern central bluff area have dense populations of Tree lupine and Scotch broom. English laurel is common along the top of the bluff, although the population is low for the overall bluff area. Gorse and other invasive species are present, but have not yet achieved significant population sizes.

Objectives:
- Monitor potential hazard trees.
- Reduce erosion of bluff soils.
- Maintain views from top of the bluff.
- Prevent spread of invasive species to other areas.
- Enhance wildlife habitat.

Management and Maintenance Annual Calendar
Lincoln Park – Bluff Management Area

	Month																					
	J		F		M		A		M		J		J		A		S		O		N		D	
Management and Maintenance Practices																								
Weeding and Invasive Control																								
Trees													☐	☐	☐	☐	☐							
Shrubs									☐	☐	☐	☐	☐	☐	☐	☐	☐							
Herbs								☐	☐	☐	☐	☐	☐	☐	☐	☐								
Removing Plants	X	X	X	X	☐	☐	☐	☐	☐	☐	☐	☐	☐		X	X	X	X	X	X	X	X	X	X
Pruning	X	X	X	X	☐	☐	☐	☐	☐	☐	☐	☐	☐		X	X	X	X	X	X	X	X	X	X
Planting																								
Trees			☐	☐	☐	☐													☐	☐	☐	☐	☐	
Shrubs			☐	☐	☐	☐													☐	☐	☐	☐	☐	
Herbs					☐	☐	☐	☐	☐	☐	☐						☐	☐	☐	☐				
3 Yr. Establishment Care	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	X	X	X	X	X	X					☐	☐

☐ Indicates range of time to perform action as needed
X Indicates specific time to perform action

WEEDING AND INVASIVE CONTROL

Invasive plant species should only be removed from edges of the bluff in such a way as will not contribute to soil erosion. Any vegetation removals on steep slopes should immediately be followed by installation of jute netting. Weeding and removal of woody and herbaceous species should take place as needed during the growing season. Small woody debris of species unlikely to resprout from cuttings may be left on site in modest brush piles to improve wildlife habitat. Large woody debris, which is capable of sliding down slope, should not be left on site after cutting. Root systems of large woody invasives like English laurel, English holly and horsechestnut should not be removed; suckers should be repeatedly recut or spot treated with herbicide to reduce or eliminate recurrence.

REMOVING PLANTS

Other than invasives, removals should be conducted only in the case of hazard trees. When possible, removals should be done between August and March to avoid disruption of nests. Large, dead trees capable of sliding down slope should not be left as snags or downed woody debris. Limbs from trees infected with saprophytic fungi such as *Phytopthora* should either be chipped or removed.

PRUNING

Pruning of trees should be performed only by a certified arborist or plant health care professional. Coppicing of English laurel and English holly blocking blufftop views is a high priority, and should be performed during the dry season to minimize potential erosion of exposed soil. Other pruning should be limited to removal of limbs that pose a hazard to human safety or infrastructure. Dead limbs should not be left on site it they are capable of sliding down slope. Best professional judgement should prevail regarding bluff edge tree removals, an approach sometimes used to preempt local slope failure due to windthrow-induced root heave. Pruning decisions should reflect consideration of safety, erosion control and habitat enhancement.

PLANTING

Planting should only be done if at least three-year establishment care can be assured.

Only plant species that are adapted to survive on slopes and that will not contribute to erosion should be planted on the bluff. Species selection should also consider the potential invasiveness of species, microclimate conditions at each planting site and the historic landscape character of Lincoln Park.

MULCHING
The ground immediately surrounding newly installed plants should be covered with woody mulch, taking care not to pile mulch on root crowns or against plant stems. Coarse woody mulch can also be spread on relatively flat, bare areas of the bluff.

THREE YEAR ESTABLISHMENT CARE
Establishment care will be necessary for any newly installed woody plants that replace invasive trees and shrubs.

6.3 Forest Management Area

Area: 49.8 acres. Boundary encompasses substantial portions of Vegetation Zones C, D, H, I, L & M. The Forest Management Area covers the majority of the interior of Lincoln Park. Intervening MA's divide the Forest into discontinuous northern, central and southern parts. The central forest area is essentially continuous, but laced with both official and social trails. Lawn is present between trees in open forest areas near the western edge. Drainage varies from good to poor. Large patches of bare, compacted soil have developed in areas of high human use. A small seasonal stream that runs through portions of the forest has little or no vegetation buffer along its banks.

Canopy: Species vary as a result of exposure and prior human intervention. Evergreen trees such as Douglas fir, Western red cedar, Pacific madrona and Grand fir comprise the majority of the canopy species. Lawson cypress and Japanese cryptomeria intermingle with native conifers in the northern portion of the forest. Small groves of deciduous trees species such as Bigleaf maple and Red alder are present throughout the management area. Some trees have died recently, a probable result of *Phytophthora* root disease.

A distinctive characteristic of Lincoln Park's forested areas is that mature, non-native ornamental trees are present within and along the edges of the forest, most planted small groups. Significant groves of Coast redwoods dominate on the eastern edge, a grove of European beeches on the western edge, and other individual and small groups of trees throughout the forest (Yellowwood, Golden Rain, Oak, Incense cedar, Crabapple, etc.).

Understory: Shrubs and herbs are a combination of both native and invasive species. Common native shrubs include Western hazel, Salal, Red elderberry, Trailing blackberry, Ocean spray, Orange honeysuckle and Snowberry. Ornamental shrubs such as Skimmia, European cranberry bush, Camellia, Rhododendron and Holly cultivars (notably *Ilex aquifolium 'Aureo-marginata'*) mix with the native and invasive shrubs in the northern portion of the Forest. Sword fern and moss cover large portions of the forest floor.

Invasive plants: Invasives are present throughout the Forest; density varies. Most commonly-found species are: English ivy (9% - <1%), English holly (8% - <1%), English laurel (3% - <1%), Himalayan blackberry 3% - <1%, Tree lupine (45% - <1%) and Gorse (4.5% - <1%).

Objectives:
- Monitor & mitigate potential hazard trees.

- Eliminate or reduce presence of invasive plants.
- Reduce fragmentation by social trails.
- Mitigate compacted soils and eliminate further compaction.
- Maintain ornamental tree groves.
- Protect trees from damage.
- Enhance vegetation along seasonal watercourse.

Management and Maintenance Annual Calendar
Lincoln Park – Forest Management Area

	Month																							
	J		F		M		A		M		J		J		A		S		O		N		D	
Management and Maintenance Practices																								
Weeding and Invasive Control																								
Trees																								
Shrubs																								
Herbs																								
Removing Plants	X	X	X	X											X	X	X	X	X	X	X	X	X	X
Pruning	X	X	X	X											X	X	X	X	X	X	X	X	X	X
Planting																								
Trees																								
Shrubs																								
Herbs																								
3 Yr. Establishment Care													X	X	X	X	X	X						
Lawn Care																								

☐ Indicates range of time to perform action as needed
X Indicates specific time to perform action

WEEDING AND INVASIVE CONTROL
Invasive plant species should be removed to the largest extent possible. Weeding and removal of woody and herbaceous species should take place as needed during the growing season, but at least monthly for the first year in newly planted areas. Woody debris generated by invasive removal that is unlikely to sprout from cuttings may be left on site to improve wildlife habitat. Woody debris placed in brush piles, coarse woody debris, snags and stumps all provide significant wildlife habitat. English holly and English laurel should not be left as snags or stumps because of resprouting potential.

REMOVING PLANTS
Other than invasives, removals should be conducted only in the case of hazard trees or to improve growth environment for selected high-value trees like light-stressed historic groves of ornamental species. When possible removals should be done between August and March to avoid disruption of nests. If a failing tree does not pose a threat to human safety, girdling or trimming to provide snag habitat or felling and leaving as coarse woody debris is preferable to complete removal. Limbs from trees infected with saprophytic fungi such as *Phytopthora* should either be chipped or removed. Large woody debris should never be placed directly on the root crown of desirable plants.

PRUNING
Tree pruning should be performed only by a certified arborist or plant health care professional. Pruning should be limited to removal of limbs that pose a hazard to human safety or infrastructure. Dead limbs should be allowed to fall to the forest floor as coarse woody debris. Best professional judgement should prevail when assessing limb or tree removals. Pruning decisions should reflect consideration of safety and habitat enhancement priorities. Where documented personal safety concerns exist, it may be desirable to undertake selective thinning of tall understory vegetation to improve sight lines. Such thinning should relate to major pedestrian routes, and be performed in consultation with law enforcement and Parks management acquainted with Lincoln Park. Overthinning will result in significant loss of habitat and species diversity.

PLANTING
Planting should be undertaken only if at least three-year establishment care can be assured, and generally done in concert with restoration of target areas within the MA. Species selection should consider the potential invasiveness of species, microclimate conditions at each planting site, sustainability, habitat enhancement, and the historic landscape character of Lincoln Park. Native species should clearly dominate Forest plantings, except where helping perpetuate the tradition of interspersed non-native groves.

MULCHING
The ground immediately surrounding newly-installed plants should be covered with coarse woody mulch, taking care not to pile mulch on root crowns or against plant stems. Coarse woody mulch should be spread deeply on compacted areas and decommissioned social trails, to improve soil tilth and microfauna for restoration planting.

LAWN CARE
Lawn areas within the forest area should be managed at low intensity. Where increased shading makes grass unsuccessful, convert area to native groundcover or woodchip mulch.

THREE YEAR ESTABLISHMENT CARE
Establishment care will be necessary for any newly-installed woody plants that replace invasive trees and shrubs, as well as trees replenishing the forest canopy.

6.4 Passive Use Greensward Management Area

Area: 7.5 acres. Boundary encompasses Vegetation Zone K plus parts of Zones F, I & J. Two passive use greenswards are located in the north central interior of Lincoln Park and one (the "Wedding Grove") within the southern interior forest. Each greensward is bordered by forest on the north and south. The northern greensward is also bordered by the bluff trail on the west and a ballfield on the east. Both areas provide park visitors with the unique experience of walking freely beneath a mixed tree canopy. Individual trees and small mixed groups of trees and shrubs grow amid open lawn in the northern greensward. The southern greensward is mostly lawn with few trees and some invasive species. Both lawn areas are poorly drained.

Canopy: The majority of the tree canopy is composed of Douglas fir and Lawson cypress. Other non-native tree specimens are present throughout.

Invasive plants: Invasives are limited to those growing near trees and tree/shrub islands. Most do not have a significant presence in this area. English ivy is present and climbing up trunks of some specimen trees.

Objectives:

- Monitor and mitigate potential hazard trees.
- Maintain unique vegetative character of greensward.
- Improve soil drainage.
- Protect trees from damage.
- Prevent spread of invasive plant species.

Management and Maintenance Annual Calendar
Lincoln Park – Passive Use Greensward Management Area

	Month																							
	J		F		M		A		M		J		J		A		S		O		N		D	
Management and Maintenance Practices																								
Weeding and Invasive Control																								
Trees																								
Shrubs																								
Herbs																								
Removing Plants	X	X	X	X											X	X	X	X	X	X	X	X	X	X
Pruning	X	X	X	X											X	X	X	X	X	X	X	X	X	X
Planting																								
Trees																								
Shrubs																								
Herbs																								
3 Yr. Establishment Care														X	X	X	X	X	X					
Lawn Care																								

☐ Indicates range of time to perform action as needed
X Indicates specific time to perform action

WEEDING AND INVASIVE CONTROL

Invasive plant species should be eliminated within the Greensward, a relatively easy task since lawn mowing effectively prevents vegetative spread from area to area. However, seed is constantly distributed by wildlife and human foot traffic, and provide ongoing modes for reinfestation. Frequent monitoring and early control are key. Weeding and removal of woody and herbaceous species should take place as needed during the growing season, but at least monthly for the first year around newly installed plants. Woody debris should not be left on open lawn areas.

REMOVING PLANTS

Other than invasives, removals should only be conducted in the case of hazard trees. When possible removals should be done between August and March to avoid disruption of nests. If a failing tree does not pose a threat to human safety, girdling or trimming to provide snag habitat is preferable to complete removal. Felling limbs and leaving on the boarder of tree/shrub clumps and lawn can be used to protect root zones. Limbs from trees infected with saprophytic fungi such as *Phytopthora* should either be chipped or removed. Large limbs should never be placed directly on tree root crowns.

PRUNING

Tree pruning is particularly important for the Greensward, because it contains many high-quality specimens and because area trees are fully accessible to Park users. Hazard abatement pruning should be performed as needed, in conjunction with a regular monitoring program. Structural,

disease control and deadwood pruning should occur based on best professional evaluation, with the goal to maintain tree quality and longevity. All pruning should be performed by a certified arborist or qualified plant health care professional. Because the Greensward is a semi-developed landscape, habitat enhancement is secondary to aesthetic and human safety considerations. For the most part, woody debris should be chipped or removed from pruning sites in this MA.

PLANTING
Planting should be done only if at least three-year establishment care can be assured. Species selection should address the potential invasiveness of species, individual site microclimate, and historic landscape character of the Greensward. Non-native and native trees are part of the Greensward's historic character and this diversity should be perpetuated. When existing tree decline becomes evident, replacement specimens and groups should be planted. The overall proportion of canopy to open area should be maintained, but patterns will be expected to shift through time. New trees need not - generally cannot - be placed in the exact positions where trees are currently growing. Replacements should be established in anticipation of losses, not simply in reaction.

MULCHING
The ground immediately surrounding newly installed plants should be covered with coarse woody mulch, taking care not to pile mulch on root crowns or against plant stems. Coarse woody mulch also should be spread in the root zones of existing trees, and replenished regularly. Any existing grass should be killed or sheet mulched prior to mulch application. Groups of trees should be mulched as a grove, not individual tree circles.

THREE YEAR ESTABLISHMENT CARE
Establishment care will be necessary for any newly installed woody plants. Early training pruning is a particularly important element of establishment care for new Greensward trees.

LAWN CARE
Best management practices should be used to improve drainage of lawn areas throughout the Greensward. Lawns should never be cut to below a minimum height of three inches. Beyond improving drainage, lawn areas should be managed at low intensity, except where high foot traffic is evident. Lawn maintenance should be conducted in a manner that minimizes tree root zone soil compaction and keeps equipment well clear of tree trunks and root crown, to minimize any inadvertent damage.

6.5 Lawn / Ballfields Management Area

Area: 6.8 acres. Boundary corresponds to Vegetation Zone E. Lincoln Park contains two separate ballfields, both surrounded by lawn. The larger of these areas is found in the north central portion of the Park, the smaller one in the southeast. These fields are designed for baseball and scheduled for team play, also occasionally used for other sports. Bleachers and other structures surround portions of the ballfields.

A mixture of native and ornamental vegetation borders the ballfields and lawn on all sides. Many mature trees lie within this vegetative border, presenting potential hazards if structurally compromised. While active recreation use impedes several vegetation management goals for Lincoln Park, their historic presence and use by the community dictate that the ballfields be retained.

Objectives:

- Monitor potential hazard trees and mitigate as needed.
- Maintain athletic turf appropriately for active use.
- Mitigate compacted soils around tree root zones.
- Minimize disruption to surrounding wildlife habitat.

Management and Maintenance Annual Calendar
Lincoln Park – Lawn / Ballfields Management Area

	Month																					
	J		F		M		A		M		J		J		A		S		O		N		D	
Management and Maintenance Practices																								
Removing Plants	X	X	X	X											X	X	X	X	X	X	X	X	X	X
Pruning	X	X	X	X											X	X	X	X	X	X	X	X	X	X
Planting																								
Trees																								
Shrubs																								
Herbs																								
3 Yr. Establishment Care														X	X	X	X	X	X					
Lawn Care																								

☐ Indicates range of time to perform action as needed
X Indicates specific time to perform action

REMOVING PLANTS

Other than invasives, removals should be conducted only in the case of hazard trees. Whenever possible, removals should be done between August and March to avoid disruption of nests, but greatest consideration should be placed on safety. Only trees that pose a direct threat to users or structures should be removed.

PRUNING

Tree pruning should be performed only by a certified arborist or plant health care professional, and should be limited to removal of limbs that pose a hazard to human safety or infrastructure. Limbs from trees infected with decay fungi should either be chipped or removed. Pruning decisions should reflect best professional judgement balancing safety, tree protection and habitat enhancement priorities.

PLANTING

Planting should be done only if at least three-year establishment care can be assured. Species selection should address the potential invasiveness of species, microclimate conditions at each planting site, and historic landscape character. Every tree removal should be accompanied by new tree and/or large shrub planting, to maintain a buffer between ballfields and surrounding forest and greensward areas. Easily-damaged taxa should be avoided, due to the likelihood that errant balls and players will occasionally enter plant buffers.

MULCHING

The root zones of surrounding trees should be covered with coarse woody mulch, when mulching will not interfere with maintenance of actively-used, vigorous lawn. The ground immediately surrounding newly installed plants should be covered with woody mulch, taking care not to pile mulch on root crowns or against plant stems.

THREE YEAR ESTABLISHMENT CARE
Establishment care will be required for any newly-installed woody plants that replace either invasive shrubs or hazard trees.

LAWN CARE
Best management practices should be followed for care of athletic turf. Lawns surrounding ballfields should be managed for moderate to high use, and never be cut to below three inches height. Turf maintenance should be conducted in a manner that minimizes compaction of tree root zone soil and prevents equipment-related damage to tree trunks and surface roots.

6.6 Active Use Greensward Management Area

Area: 6.6 acres. Boundary encompasses much of Vegetation Zones F & M plus a small part of Zone H. The Active Use Greensward consists of two similar but discontinuous areas in the northern and southern portions of the park. Forest surrounds the greenswards, and a parking lot borders the southeastern edge of the larger, southern area. The south greensward is a combination of playground and picnic area. The north greensward is a picnic and recreational area with several related structures present (shelters, wading pool, etc.). The vegetation in both areas is primarily lawn with widely-spaced plant islands throughout. These islands are composed of mature native and non-native trees and shrubs.

Many of the Greensward trees have limbs overhanging the playground, picnic tables and grills. Generally, lawn grows immediately adjacent to tree trunks, without mulch or understory vegetative buffer. Few invasive species are present in the area except sparse infestations within the tree/shrub clumps. Lawns in both areas are poorly drained and predictably, compacted due to heavy use.

Objectives:
- Monitor potential hazard trees and mitigate as needed.
- Improve soil drainage.
- Protect trees from damage.
- Prevent spread of invasive plant species.
- Enhance vegetation along intermittent stream.

Management and Maintenance Annual Calendar
Lincoln Park- Active Use Greensward Management Area

	Month																					
	J		F		M		A		M		J		J		A		S		O		N		D	
Management and Maintenance Practices																								
Weeding and Invasive Control																								
Trees																								
Shrubs																								
Herbs																								
Removing Plants	X	X	X	X											X	X	X	X	X	X	X	X	X	X
Pruning	X	X	X	X											X	X	X	X	X	X	X	X	X	X
Planting																								
Trees																								
Shrubs																								
Herbs																								
3 Yr. Establishment Care														X	X	X	X	X	X					
Lawn Care																								

☐ Indicates range of time to perform action as needed
X Indicates specific time to perform action

WEEDING AND INVASIVE CONTROL
Invasive plant species should be removed to the largest extent possible. Control may take place as needed during the growing season, but at least monthly for the first year surrounding newly-installed plants. Large woody debris generated by invasive removal that is unlikely to sprout from cuttings may be left on site as a border around tree/shrub clumps. Large woody debris should never be placed directly on the root crown of plants, nor left in open lawn areas.

REMOVING PLANTS
Other than invasives, removals should be conducted only in the case of hazard trees. When possible removals should be done between August and March to avoid disruption of nests. If a failing tree does not present a hazard to park users or facilities, snag creation is preferable to complete removal; such opportunities within this active use area will be limited. Trees that overhang the playground or other high use areas should not be left as snags. Felled limbs can be placed in such a manner as to create informal protective borders at tree/shrub islands. Limbs from trees infected with decay fungi should either be chipped or removed. Large downed woody debris should never be placed directly on tree root crowns or left in open lawn.

PRUNING
Pruning decisions should balance consideration of user safety, tree protection and habitat enhancement priorities. Tree pruning should be performed by a certified arborist or qualified plant care professional. Pruning should be limited to removal of limbs that pose a hazard to human safety or infrastructure. Dead limbs can be left as an informal, protective border between tree/shrub clumps and lawns. Never place large limbs directly on tree root crowns or lawn.

PLANTING
Planting should be done only if at least three-year establishment care can be assured. Species selection should consider structural stability and safety, the potential invasiveness of species, microclimate conditions at each planting site and the historic landscape character of the Park. Non-native and native trees are both part of the historic character of the picnic and playground areas; this diversity should be maintained when adding to or replacing existing plants.

Understory planting is strongly recommended, in turfed grove areas and to expand or replenish existing vegetation "islands. This strategy aims primarily to reduce soil compaction and resulting tree root zone damage and hazard creation, with ancillary aesthetic and habitat benefits. Target areas should be identified with best opportunity for success and greatest need in mind, as well as to respect this MA's essentially open understory character. To insure success, such plantings will require extensive, careful soil preparation (loosening, organic amendment), species selection to include resilient, tough, low-to-mid height native taxa, and excellent establishment care and protection. Permanent rustic fencing may be required to prevent destructive trampling.

MULCHING
The ground immediately surrounding newly installed plants should be covered with coarse woody mulch, taking care not to pile mulch on root crowns or against plant stems. Coarse woody mulch should be spread on the root zones of existing trees, being careful not to pile mulch against stems. Root crowns should be mulched within all tree root zones; any existing turf growing near stem should be removed or killed before placing wood chip mulch.

THREE YEAR ESTABLISHMENT CARE
Establishment care will be necessary for any newly installed woody plants that replace invasive or hazardous trees and shrubs. Early structural pruning for trees is especially important to insure that a strong and stable framework develops through time, reducing longterm hazard potential. Likewise, maintaining coarse woody mulch to minimize root zone compaction is crucial for Active Use Greensward trees.

LAWN CARE
Best management practices should be used to improve drainage of lawn areas throughout the picnic and playground areas. Lawns should never be cut to below a minimum height of three inches. Beyond improving drainage, lawn areas should be managed at moderate intensity reflecting the demands of concentrated use; at peripheral areas where foot traffic is dispersed, less intensive maintenance is needed. Lawn care activities should be conducted in a manner that minimizes compaction of tree root zone soil, and averts root scalping and trunk damage.

6.7 Native/Ornamental Landscape Management Area

Area: 8.9 acres. Boundary incorporates major portions of Vegetation Zones C, D & L. Native/Ornamental Landscape areas encompass the entire eastern edge of Lincoln Park. Fauntleroy Way SW forms the eastern border, and several other Management Areas border it to the west. A large Parks crew headquarters building and parking lot lies within the northern portion of this MA. A service road runs through this northern portion.

Tree canopy is intermittant, and is composed of mixed native and non-native species. Understory vegetation is a combination of native, non-native and invasive shrubs and herbs. Most of the length of this area is comprised of a wide vegetation swath dominated by English ivy with some interspersed salal. Species of holly, viburnum and shrub cotoneaster line the MA's western edge; their spread by seed to forested areas of the park is evident. These inadvertently-invasive ornamentals, planted historically in this area, constiture a significant seed source which birds can distribute to other parts of the Park. The northern portion has some ornamental beds containing species of herbaceous perennials.

Objectives:
- Monitor potential hazard trees and mitigate as required.
- Prevent spread of invasive species to other Park areas.

- Eliminate over time the presence of invasive ornamentals.
- Enhance and sustain mixed native-ornamental character.
- Mitigate compacted soils and eliminate further soil compaction.
- Protect trees from user-related damage.

Management and Maintenance Annual Calendar
Lincoln Park – Native/Ornamental Landscape Management Area

	Month																							
	J		F		M		A		M		J		J		A		S		O		N		D	
Management and Maintenance Practices																								
Weeding and Invasive Control																								
Trees																								
Shrubs																								
Herbs																								
Removing Plants	X	X	X	X											X	X	X	X	X	X	X	X	X	X
Pruning	X	X	X	X											X	X	X	X	X	X	X	X	X	X
Planting																								
Trees																								
Shrubs																								
Herbs																								
3 Yr. Establishment Care														X	X	X	X	X	X					
Lawn Care																								

☐ Indicates range of time to perform action as needed
X Indicates specific time to perform action

WEEDING AND INVASIVE CONTROL
Invasive plant species should be removed to the largest extent possible, with the longterm goal of replacing all invasive ornamental plants with substantially-similar but noninvasive taxa (example: substitute Holly-leaf Osmanthus cultivars for invasive English holly). Areas most proximate to intact native forest should receive first attention. Weeding and removal of woody and herbaceous species should take place as needed during the growing season, but at least monthly for the first year surrounding newly-installed plants. Large woody debris generated by invasives removal of species unlikely to sprout from cuttings may be left on site in wilder portions of this MA, but not in developed ornamental beds. English holly and English laurel should not be left as snags or stumps. Large woody debris should never be placed directly on the root crown of plants, nor left on open lawn.

REMOVING PLANTS
Plant removals should serve one of the following purposes: to control invasives, to alleviate plant overcrowding, to eliminate hazard trees. When possible, removals should be done between August and March to avoid disruption of nests. If a failing tree does not pose a threat to property or human safety, girdling or trimming to provide snag habitat is preferable to complete removal. Limbs from trees infected with decay fungi should either be chipped or removed.

PRUNING
Tree pruning should be performed only by a certified arborist or qualified plant health care professional. Pruning should address at least one of the following purposes: removal of limbs that pose a hazard to human safety or infrastructure, breakage, disease or deadwood cleaning, thinning and structural pruning to improve plant health, beauty, and structural integrity. Pruning decisions should reflect consideration of ornamental value, safety, tree protection and habitat

enhancement. While largely informal, the native/ornamental landscape should be maintained with a less wild character in mind than most Park areas.

PLANTING

Planting should be done only if at least three-year establishment care can be assured. Species selection should consider structural stability and safety, the potential invasiveness of species, microclimate conditions at each planting site and the historic landscape character of the Park. Mixed exotic and native species are part of the historic character of the native/ornamental landscape area, and this diversity should be maintained. Careful assessment of alternate taxa to replace invasive ornamentals will be required, to insure maximum fidelity to plants originally selected for this landscape.

MULCHING

A minimum of six inches of coarse woody mulch should be spread on areas where vehicles are likely to pull off the service road. The ground immediately surrounding newly installed plants should be covered with coarse woody mulch, taking care not to pile mulch on root crowns or against plant stems. Coarse woody mulch should be spread on the root zones of existing trees, being careful not to pile mulch against stems. Root crowns should be mulched only after killing or removing any existing lawn within a tree's root zone.

THREE YEAR ESTABLISHMENT CARE

Establishment care will be necessary for any newly installed woody plants that replace invasive or declining trees and shrubs. Pruning to establish tree structure or stimulate vigor may be required, based on periodic evaluation by horticultural professionals.

LAWN CARE

Lawns should never be cut to below a minimum height of three inches in these areas. Lawn should be managed at moderate intensity. Lawn care should be conducted in a manner that minimizes compaction of tree root zone soil and avoids damage to trunk and root crown.